



Science Curriculum Overview

Key Stage 3- Year 7

Overview

Students further develop their knowledge in Biology, Chemistry and Physics through exploration into different aspects of these sciences and learn how these scientific processes are important not just in the classroom but in the local community and globally.

Term 1 – One unit of Chemistry and Physics; Two units of Biology

Students learn about the main organs of the body and introduces cells in terms of their structure, shape and division. Next students are introduced to ideas about acids, alkalis and indicators in the context of acid manufacture. Students learn that stores of energy are needed to make most things happen, and that burning fossil fuels to transfer energy is contributing to global warming. Students explore the uses of natural and modern reproductive strategies, in terms of saving endangered animals and human procreation.

Term 2 – One unit each of Biology, Chemistry, and Physics

Students consider how we organise things into groups to make life easier. This is extended to cover biological classification and variation in terms of its genetic and environmental causes. The next unit introduces the idea of chemical changes and includes work on key criteria for deciding whether a change has taken place. The final unit covers the measurement of current in series and parallel circuits. It also looks at some of the uses and dangers of electricity, and at the idea of using models to help us to think about things.

Term 3 – One unit each of Chemistry and Physics

Students learn the different properties of solids, liquids and gases and the implications of their handling and storage are considered, together with an introduction to the particle theory of matter. The final unit students learn how observations of the Sun, Moon and stars can be explained. The unit goes on to look at why we have seasons, and then to the wider picture of the Solar System, stars, galaxies and space exploration.

Practical Work

There is an introduction to ideas about risk assessment and hazard classification. In addition to topical practical work, students are also introduced to new reasoning patterns that also describe the relationship between variables. Students learn about proportionality by investigating gear ratios and making scale drawings. Students then learn about inverse proportionality through the investigating the behaviour of levers. Students are then introduced to idea of population variation and the practice of sampling through the investigation of various species of beans.